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VE1000	16ms	1000:1	250 cd/m²	178°/178°	ClearView Max™, iSearch™, 2D video response, 2D video response

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VE1000	16ms	1000:1	250 cd/m²	178°/178°	ClearView Max™, iSearch™, 2D video response, 2D video response

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A small detail missing in Red Hat review
 Gene Wilensky has left one small item out of his review of Red Hat Linux 7.0 (see TOP Story). In the Linux community, Red Hat has not lost the support it used to have and with its newer distributions after 6.1 it has been regarded as not worth getting.

I am not going to get into naming the distributor that is the "best" as that really depends on what your use is going to be. Debian and Free BSD are closer to a true Unix kernel than most (great for commercial users). The rest have various policies going for them.

Jagjit Greenless

Youth, what about the high cost of ink?
 In the Lab Report sidebar "Why Ink Costs So Much" (see TOP September) there was no mention of the costs of developing or producing the inks. Nor any mention of the secondary market for ink supplies.

I used to have a Canon colour printer with four separate ink cartridges. After a couple of years of buying expensive cartridges, I tried out refilling my own car-

tridges. This worked for about three refills, and then my print head nozzles started to clog and I could not use them.

I replaced the Canon with an Epson 600 that I got at Superstore. I have bought Epson ink cartridges for several years and they have worked fine. Recently Superstore switched to another cartridge supplier with ink cartridges that are half the price. I am on my first cartridge from this supplier. I am only about a third of the way through the cartridge but have noticed that I have to clean my heads more often.

The Computer Paper could review inks and get to the bottom of the quality versus price, OEM versus third-party supplier issue. I am not sure whether my experience is a coincidence or an example of you get what you pay for.

Glen F. Davies

Another take on ink cartridges

The box text "Why ink costs so much" in part of the September Lab Report says prices have improved noticeably in the past two years while "cartridge prices have remained relatively stable".

I have two nearly identical Hewlett-Packard colour printers: an 812C bought about two years ago for \$250, and an 845C bought this summer for \$330. The

colour ink cartridges for both printers cost \$45. However, the 812C cartridge comes with 30 mL of ink, while the 845's cartridge comes with only 15 mL. Both have been refilled successfully more than once, and can hold a lot more than 30 mL.

Besides cosmetic changes (case colour) and the elimination of the parallel port from the 845, the main difference between these two printers is in quality control. The fit and finish of the 812's parts is average, the 845 feels rough, and arrived with a crack where two parts of the paper body are joined at the factory. Even the 845's namplate—reduced from the 812's 3D plastic molding to just a piece of sticky paper—was cracked.

Alan Chittaway

TCP roundup: your commentary recently standing: what the printer price should have said is that printer pricing had improved in the past two years.

You left out Freehand

In your review of Illustrator versus CorelDraw, there was no mention of Macromed's Freehand which was always fighting with Illustrator for supremacy on Mac's side of the track and where CorelDraw never had a chance. Both are available on either Mac or PC platform. We have to remember that Freehand was

developed by Alder, the same company that brought us PageMaker.

Later an Adobe bought all Alder products, kept PageMaker, pushed it to version 5.5 then 7, left Freehand standing still (after examining its code no doubt), leaving Illustrator to promote, then sold it to Macromedia, which then updated it to Version 9 and then to Version 10, in early 2001.

Freehand was and is still ahead of Illustrator in terms of integrating text to vector graphics, integrated blends earlier on and I always left that its learning curve was less steep than Illustrator's. And the legal hassle between Adobe and Macromedia stays in part for what I understand from technology inherited from Alder.

Leslie Martin

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WHAT'S NEW

Windows-based **Destiny Media Technologies** (www.dmt.com) has released a prototype of its latest version of **Classtream**, which will allow users to watch live streaming video through a Web site without playing or third-party player software.

Classtream TV is Java-based, and can be used to rebroadcast a live television signal or video signal to the desktop. According to Destiny Media, the stream will reach users behind firewall or proxies that are compatible with HTTP 1.1. A demo of the prototype is available at www.dmt.com/destiny/index.html.

Canon (www.canon.com) has introduced two compact projectors to its lineup that will allow users to project a 2.54-in. wide (100 in.) image from 2.8 in. (9.2 in.), which is about 3.2 in. (8 in.) closer than Canon's previous models. The **LV-7355** and **LV-7350** LED projectors, which weigh in at 4.7 kg, also feature native XGA resolution, a 1,500-contrast zoom lens, and the ability to connect wirelessly to a PC or to run a presentation directly from a media card.



Canon says the brightness of the LV-7355 can be boosted from 1,500 ANSI lumens to 2,700 ANSI lumens using its Turbo Bright System, which was designed for spaces where lighting can't be dimmed. The LV-7350 has a range of 1,500 to 1,800 ANSI lumens.

The projectors have a suggested list price of US\$4,499 (LV-7355) and US\$3,499 (LV-7350).

Colligo Networks Inc. (www.colligo.com) has released **Colligo Personal Edition**, an application that allows users to exchange files and communicate with each other even ad hoc, peer-to-peer, wireless networks in real time. The software uses short-range wireless capabilities such as Bluetooth or 802.11 to establish direct connections with other equipped devices, without the need to

access a server or Internet connection. Users can communicate through chat or instant messaging programs and transfer files between devices over the connection, according to the company.

The software supports Windows-based laptops, desktops, and Tablet PCs, as well as both Palm and Pocket PC handhelds. It can be purchased from Colligo's Web site for US\$29.95.

IBM (www.ibm.com) and **Monda** (www.monda.com) are working on a voice recognition technology for a new navigation system that will be featured in select 2003 model **Monda Accords**. The new Touch by Voice navigation system is powered by IBM's VisioVoice technology and software developed jointly by IBM and Monda Research and Development.



Drivers will be able to activate the system through a "talk" button on the steering wheel, and then ask for directions and hear the responses over the car's audio system. In addition, IBM says drivers will be able to use the technology to operate the car's climate controls. The navigation system will be available on top-end Accord models sold in the U.S.

Intel (www.intel.com) and **SanDisk** (www.sandisk.com) have announced a joint plan to develop a mobile device that will play back recorded TV programs. The **ReplayTV Portable Video Player** (PVP) device, which is expected to be released in 2003, will play files transferred from SanDisk's **ReplayTV** Digital Video Recorder, as well as other audio and video files transferred from a PC.

Intel is contributing its iScale technology-based processors and advanced video codecs developed by its Emerging Platform Labs, according to the announcement, which was made at the

Spotlight



Tiny minis capture video

Sony has unveiled a new class of ultra-small digital cameras, beginning with the **Cyber-shot U10**, **U50**, **U20** and **U30**. The tiny cameras capture both digital still images and record MPEG-1 movie clips.

The Cyber-shot line weighs in at 321 g (4.3 oz.) each with battery and media installed, fitting a Sony product, that models is its proprietary **Memory Stick**. **U40** models come with an 8-MB Memory Stick, as well as a pair of 8-MB **Hi8** interchangeable batteries, a battery charger, USB cable and a neck strap.

They feature a user-friendly interface, built-in flash, and can be operated with one hand, according to Sony. They also have a 3-inch LCD reflective LCD for composing and reviewing shots.

In addition to standard still image capture, the new minis feature a burst mode for shooting up to five consecutive frames (three per second), while pressing the shutter button, and video mode for capturing 15-second MPEG-1 clips (without audio).

The Cyber-shot **U10**, **U50** and **U20** are priced at US\$295, and the **U30** at US\$230. Both models sport a silver finish case, but Sony says a wide range of case colors will be available in early 2003.

Intel Developer's Forum (IDF) in San Jose in early September.

The announcement ties in with the general theme of connectivity Intel emphasized at the forum, which included a keynote presentation about the "digital home," in which computers and consumer electronic devices connect and communicate seamlessly.

LP to CD or DVD

Those with a vast collection of vinyl LPs gathering dust in the basement may be interested in the SP201—a hardware and software solution for transferring master-tape old records and tapes onto either a PC hard drive, CD or DVD. The program/kit is powered by **ezPC**. Total battery is needed to copy data from a 15-in. tape to a 15-in. tape. While the hardware is compatible with the Windows PC, the software is Windows only (95, 98 or XP).

The SP201 has a suggested retail price of \$89.99.



Spotlight

Still hurting after all these years

Pain on the job didn't start with the Computer Age

By Jeff Evans

I know three people who have developed repetitive strain injuries (RSI), associated with long-term computer keyboard and mouse use. Their symptoms appeared years ago, when proper ergonomic methods of preventing RSI were not widely known or practiced. They still suffer from symptoms, even though they now practice safer computing use.

Although accurate figures on the total numbers of RSI sufferers are hard to pin down, my three friends have lots of company. In researching this article, I came across widely varying statistics and estimates of the scale of the RSI problem, with the claimed numbers of sufferers of this condition ranging from hundreds of

thousands to many millions, in North America alone. Estimates of the economic costs of RSI in North America also vary widely, from \$2 billion to \$100 billion per year.

Work has always had its dangers: the skeleton of a first-century AD slave from the Roman city of Herculaneum had several vertebrae fused from the literally back-crushing labour he performed on the docks and ships of that seaport. Inuit women used to wear out three front teeth in the course of a lifetime of chewing hides to soften them, a necessary step in making certain items of Arctic clothing. Some of my coal-mining associates had "Widow's down the back" cracks of scar tissue over the bumps of their vertebrae, created by years of scraping through tiny

stone tunnels, their backs torn by the rough, low, rock ceilings.

The Computer Age poses hazards to today's information workers, just as the Stone Age, the Iron Age, and the Industrial Age challenged our ancestors. Sadly, many of today's technology-related problems are unnecessary, the result of new technologies not originally developed with human users' needs sufficiently in mind. A lot of remedial research and work has been done in the last decade, trying to undo the deficiencies of our too-hurly created information tools.



Today, we call the scientific study of the tools and environments that we use and live within, "ergonomics." The term comes from the Greek *ergon* (work) and *nomos* (law), or "laws of work." According to Donald Norman, as Apple

Continued on page 14

On our cover: the ultimate in workspace ergonomics



Lazy chair

No, you can't buy the workstation that we selected to illustrate this month's cover. Called the Clipper CS-L, it was designed in 1994 by Douglas Bull and manufactured by Neoware Inc. of Texas, but is no longer in production.

We first saw the Clipper being exhibited at the Design Exchange in Toronto, and have since learned that it was selected to be part of the permanent collection of the Design Museum in London.

The design can be likened to an airplane cockpit, where controls are readily accessible, and the space is private and personal. The white pan-

els diffuse light, helping to eliminate glare and reflections on a computer monitor and the relationships between seating and desk can be customized.

Douglas Bull, born in Peterborough Ont., presently runs his own studio, Douglas Bull Inc. (www.douglasbull.com) based in Sarnia, Ont. He worked for Sunair, a well-known name in Canadian office furniture, where he designed systems (e.g., Universal lateral filing) that became standards for office furnishings.


His latest creation is the lazy chair, designed in 2000 and manufactured by Vesta



Clipper CS-L

whose parent company is Steelcase.


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

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Still hurting after all these years

Continued from page 12

Follow the writer of *Things That Make Us Smart: Defending Human Attributes in the Age of the Machine*, technology tends to debilitate, and it requires a conscious effort to re-humanize it. In conversation with this writer, Norman expressed his love for the human ingenuity that has created modern technology, but warns that technology becomes as pervasive, and effects as insidious, that it can undo or transform our beliefs without us knowing. The cure, according to Norman, is to always question technology and to ignore and work to make it serve us, rather than as serve it. Perhaps the most powerful tool for this examination and control of our tools and environments is ergonomics.

Another term for ergonomics is human engineering, that is, engineering the spaces, information and tools that humans use for work, education, and play so they provide the greatest benefit. Ergonomics really started to develop as a scientific discipline in the first half of the 20th century, initially as part of industrial design and manufacturing process improvements, and later flourishing with the hyper-scaled military-industrial design boom of World War II.

Early research into ergonomics and human factors relating to computer technology occurred at the RAND Corporation think tank in the 1960s, and the MIT Media Lab, the Xerox PARC research lab, Stanford University, and Bell Labs, in the 1970s.

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However, as office workers' use of electric typewriters, and data input workers' use of computer keyboards increased with the computerization of the late 1990s, the rates of reported RSI skyrocketed.

U.S. Bureau of Labor Statistics

Continued on page 18



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